1. A method of securing a fixation device within an opening in a tissue, comprising:

delivering a material in a flowable state to said opening, and

changing the state of the material so that the material forms an interference fit that secures the fixation device in the opening.

2. The method of claim 1 wherein said tissue comprises bone.

3. The method of claim 1 wherein said tissue comprises soft tissue.

4. The method of claim 1 wherein said fixation device is selected from the group consisting of suture, anchors, and screws.

5. The method of claim 1 wherein the changing step comprises allowing the material to at least partially harden.

6. The method of claim 1 wherein the changing step comprises at least partially cross-linking the material.

7. The method of claim 1 wherein said material comprises a polymer.

8. The method of claim 7 wherein said polymer comprises a thermoplastic polymer.

9. The method of claim 1 wherein said material comprises a hydrogel.

10. The method of claim 1 further comprising using the fixation device to secure a second tissue to the tissue having the opening.

11. The method of claim10 wherein the tissue having the opening comprises bone and the second tissue comprises soft tissue.

12. The method of claim 11 further comprising, prior to delivery of the material:

piercing the soft tissue;

forming the opening in an underlying area of the bone; and

delivering the fixation device through the pierced tissue;

wherein the fixation device is constructed to hold the soft tissue in place against the bone.

13. The method of claim 12 wherein the fixation device comprises a suture.

14. The method of claim 13 wherein the suture includes a region of increased surface area to enhance anchoring.

15. The method of claim 14 wherein said region is selected from the group consisting of knots, barbs, braided areas, balls and shaped elements.

16. The method of claim 12 wherein all of the steps are performed endoscopically.

17. The method of claim 12 further comprising incorporating bone fragments generated during the forming step into the material during or prior to the delivering step.

18. The method of claim 12 further comprising causing the material to infiltrate the trabecular network

19. The method of claim 1 further comprising incorporating bone fragments into the flowable material during or prior to the delivering step.

20. The method of claim 1 wherein the flowable material includes an osteoconductive filler.

21. The method of claim 1 further comprising causing the flowable material to infiltrate the trabecular network

22. The method of claim 1 further comprising forming said opening.

23. The method of claim 22 wherein the forming step is performed using micro-tooling.

24. The method of claim 1 wherein the opening has a diameter of less than about 3 mm.

25. The method of claim 12 or 22 wherein the forming step comprises forming the opening using a consumable cutting tool, and the delivering step comprises causing the cutting tool to melt in response to frictional heat generated during the forming step.

26. The method of claim 12 or 22 wherein all of the steps are performed using a single endoscopic surgical tool having a plurality of attachments, and the tool is not removed from the patient until after the steps are completed.

27. The method of claim 22 wherein said forming step comprises forming the opening with a cutting tool having a detachable portion, and the method further comprises detaching the detachable portion in the opening after the forming step is completed, to serve as the fixation device.

28. A method of anchoring soft tissue to bone comprising:

piercing the soft tissue;

forming an opening in an underlying area of the bone;

delivering a material, in a flowable state, to the opening; and

molding a portion of the material that is not in the opening to form a fixation device constructed to hold the soft tissue in place against the bone after the material changes state to a relatively less flowable state.

29. The method of claim 28 wherein the molding step includes forming a portion of the material into a shape that extends radially over a portion of the soft tissue surrounding the opening.

30. The method of claim 28 wherein the forming step includes drilling or abrading.

31. The method of claim 28 wherein all of the steps are performed endoscopically.

32. The method of claim 28 further comprising incorporating bone fragments generated during the forming step into the material during or prior to the delivering step.

33. The method of claim 28 wherein the material comprises an osteoconductive filler.

34. The method of claim 28 further comprising causing the material to infiltrate the trabecular network

35. The method of claim 28 wherein the opening has a diameter of less than about 3 mm.

36. The method of claim 28 wherein the opening has a diameter of from about 0.1 to 6.0 mm.

37. The method of claim 28 wherein the forming step is performed using micro-tooling.

38. The method of claim 28 wherein the material comprises a polymer.

39. The method of claim 29 wherein the formed portion extending radially over the soft tissue is coextensive with the material in the opening, defining a bolt-like anchor.

40. A method of fixing soft tissue to bone comprising:

(a) at a first location, piercing through the soft tissue;

(b) forming an opening in the bone underlying the soft tissue;

(c) delivering a fixation device through the pierced tissue to the opening;

(d) delivering a material, in a flowable state, to the opening; and

(e) causing the material to change state, to a relatively less flowable state, to anchor at least a portion of the fixation device in the opening.

41. The method of claim 40, wherein said fixation device is selected from the group consisting of suture, anchors and screws.

42. The method of claim 41 wherein said fixation device is a suture.

43. The method of claim 42, further comprising:

(f) drawing the suture across the soft tissue to a second location, and

(g) repeating steps (a) - (e) at the second location to form a stitch with said suture between the first and second locations, the stitch securing the soft tissue to the bone.

44. The method of claim 40 further comprising gripping the soft tissue to hold it in place against the bone.

45. The method of claim 43 further comprising, after step (g), (h) cutting the suture.

46. The method of claim 45 comprising performing steps (a) and (h) with a single tool.

47. The method of claim 40 further comprising performing steps (a) - (d) endoscopically.

48. The method of claim 43 further comprising repeating steps (f)-(g) at subsequent locations to form a line of connected stitches.

49. The method of claim 40 comprising performing steps (c) and (d) substantially simultaneously.

50. The method of claim 40 comprising performing step (c) prior to step (d).

51. The method of claim 42 comprising delivering the suture as a continuous length from a supply of suture material.

52. The method of claim 40 comprising providing said material in the form of a pellet, powder, chips, flakes or rod, and further comprising melting the material prior to delivery.

53. The method of claim 40 further comprising incorporating bone fragments generated during the forming step into the material during or prior to the delivering step.

54. The method of claim 40 further comprising incorporating an osteoconductive filler into said material.

55. The method of claim 40 further comprising causing the material, in its flowable state, to infiltrate the trabecular network

56. The method of claim 40 wherein the forming step comprises forming a opening having a diameter of less than about 3 mm.

57. The method of claim 54 wherein the opening has a diameter of from about 0.1 to 6.0 mm.

58. The method of claim 40 wherein the forming step comprises drilling or abrading.

59. The method of claim 40 further comprising performing the forming step using micro-tooling.

60. The method of claim 40 wherein the method comprises performing the forming step in the bone of a human shoulder.

61. The method of claim 60 wherein the method comprises a rotator cuff repair.

62. A surgical instrument for tissue fixation comprising:

a handpiece constructed to be held by a surgeon during a fixation procedure; and

a fixation instrument, mounted on the handpiece and comprising

a piercing element constructed to pierce through the tissue and form an opening therein; and

a lumen for delivery of a material, in a flowable state, and a fixation device to the opening.

63. The surgical instrument of claim 62 wherein the fixation device comprises a suture.

64. The surgical instrument of claim 63 further comprising a suture feed mechanism constructed to deliver the suture through the lumen to the opening.

65. The surgical instrument of claim 62 wherein the surgical instrument is constructed for endoscopic use.

66. The surgical instrument of claim 62 further comprising a heating element for heating said material to a molten state.

67. The surgical instrument of claim 66 wherein said heating element is mounted on said fixation instrument.

68. The surgical instrument of claim 64 wherein said suture feed mechanism comprises a movable needle.

69. The surgical instrument of claim 63 further comprising a probe constructed to tighten a stitch formed with the suture.

70. The surgical instrument of claim 69 wherein said probe is mounted on an external surface of said fixation instrument.

71. The surgical instrument of claim 70 wherein said probe is constructed to be manually actuated by a surgeon during an endoscopic procedure.

72. The surgical instrument of claim 62 wherein said handpiece comprises a reservoir for receiving the material in solid form.

73. The surgical instrument of claim 72 wherein said reservoir is constructed to receive a supply of pellets of the material and said handpiece further comprises a mechanism for delivering said pellets from said reservoir to said lumen.

74. The surgical instrument of claim 72 wherein said reservoir is constructed to receive a supply of powdered material and said handpiece further comprises a mechanism for delivering a predetermined dose of powdered material from said reservoir to said lumen.

75. The surgical instrument of claim 62, wherein said fixation instrument is detachable from said handpiece.

76. The surgical instrument of claim 62 further comprising a mixing device constructed to mix bone fragments and debris generated during opening forming into the material prior to delivery to the opening.

77. The surgical instrument of claim 62 further comprising a drive mechanism constructed to drive the piercing element.

78. The surgical instrument of claim 64 further comprising a drive mechanism constructed to drive the piercing element and the suture feed mechanism.

79. The surgical instrument of claim 77 or 78 wherein the drive mechanism is disposed in said handpiece.

80. The surgical instrument of claim 78 further comprising a clutch mechanism constructed to allow a surgeon to selectively engage and disengage the drive of the piercing element and the drive of the suture feed mechanism.

81. The surgical instrument of claim 62 further comprising a reservoir for receiving a supply of the material.

82. The surgical instrument of claim 62 wherein said handpiece is constructed to receive attachments other than said fixation instrument.

83. The surgical instrument of claim 63 wherein said piercing element is constructed to cut said suture.

84. The surgical instrument of claim 62 wherein said fixation instrument is constructed to perform a complete fixation procedure without removing the fixation instrument from the surgical site.

85. A surgical instrument constructed to perform the steps of the method of claim 1 endoscopically.

86. A surgical method comprising:

(a) forming an opening in bone of a patient;

(b) incorporating bone fragments generated during the forming step into a polymer as an autologous filler to form a bone/polymer blend; and

(c) delivering the bone/polymer blend, in a flowable state, to the patient;

wherein steps (a)-(c) are performed endoscopically.

87. The surgical method of claim 86 wherein the bone/polymer blend is delivered to the opening.

88. A method of securing a first layer of soft tissue to a second layer of soft tissue comprising:

forming an opening extending through both layers of soft tissue;

delivering a material, in a flowable state, through the opening so that the flowable material extends beyond the soft tissue at each end of the opening; and

causing the material to change state, to a relatively less flowable state, forming an anchor to secure the two layers of soft tissue together.

89. A method of securing a first layer of soft tissue to a second layer of soft tissue comprising:

forming an opening extending through both layers of soft tissue;

delivering a thermoplastic member to the opening, so that a portion of the member extends beyond the soft tissue at each end of the opening;

softening the extending portions of the member; and

forming each of the softened extending portions so that each extends radially over a portion of the soft tissue to secure the two layers of soft tissue together.

90. The method of claim 89 wherein said member comprises a hollow tube.

91. The method of claim 90 wherein the forming step results in a rivet-like anchor.

92. A method of securing two tissues together comprising:

forming an opening extending through the two tissues,

delivering a material, in a flowable state, to the opening, and

causing the material to change state, to a relatively less flowable state;

wherein the material forms an anchor that secures the two tissues together.

93. The method of claim 92 wherein said anchor comprises a bolt-like anchor.

94. An endoscopic instrument for securing two tissues together comprising:

a piercing device constructed to form an opening extending through the two tissues; and

a delivery device constructed to deliver a material, in a flowable state, and a fixation device, to the opening.